Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

To: The Commission:

Comments of the Boulder Regional Emergency Telephone Service Authority

The Boulder Regional Emergency Telephone Service Authority ("BRETSA"),[1] by it's attorneys, hereby submits its comments on the Commission's First Report and Order and Notice of Proposed Rulemaking in the above-captioned matter, FCC 05-116 (the "NPRM").

I. The Commission Must Proactively Protect The 911 System.

The Commission has to date been reactive in protecting the 911 System, at immeasurable cost to the public. The Commission should instead be *pro*active.

The Commission began licensing cellular telephone systems in the early 1980s with the first systems commencing service in 1985 and 1986. Prior to 1997, the Commission did not even require that wireless 911 calls be connected to PSAP, and twenty years after cellular systems first commenced service much of the country is still without true wireless E911 (Phase II E911). The cost to "retrofit" wireless services to E911 compliance has been considerable, and has been largely born by the public safety community, and ultimately by taxpayers and/or ratepayers of

[1] BRETSA is an E911 authority board created pursuant to an intergovernmental agreement among Boulder County Colorado, and the cities and fire districts located in Boulder County. BRETSA administers surcharges applied to all telephone lines and wireless phones, to fund the provision of E9-1-1 service.

wireless *and wireline* services. The public consequences of the long lack of wireless E911 service are incalculable.

Nascent VoIP services have been available for years, and Interconnected VoIP Services ("IVS") have been commercially viable and available for over a year. Yet it took high profile incidents, such as those noted by the Commission, [2] to propel the Commission to act. While adopting E911 requirements for VoIP Services, the Commission has limited application of those requirements to only those VoIP services which are commercially viable at this time.

As the Commission has observed, IP-enabled services are "the *latest* new frontier of our nation's telecommunications landscape." *NPRM*, para. 4 (*emphasis added*). They are not the last. The Commission should thus adopt rules requiring that *any* real-time, two-way voice communications service capable of terminating calls to the PSTN be E911-compliant *before* it may be offered to the public on a commercial basis.[3] This will assure E911 service continues to be available to all "telephone service" subscribers, users, and the public generally.[4] It will assure such new services and technologies compete in the marketplace on a level playing field, and that they are not subsidized by public safety agencies, taxpayers, and subscribers to other services, funding special accommodations for E911/ emergency Service by such new market entrants.

E911 Compatibility should be clearly defined by the Commission to require the five essential functionalities of: (i) a caller can reach the PSAP serving the geographic area in which the caller is located by dialing 911, (ii) 911 calls are routed to the PSAP via existing 911 networks and facilities (unless otherwise provided by state statute or regulation), (iii) the caller's call-back number is automatically provided to the PSAP, (iv) the caller's location is

[2] See *NPRM*, footnote 2.
[3] Because the deployment of VoIP and other technologies or services may transform the PSTN as we know it, and may be integrated into the E911 networks, the Commission should update its requirements as necessary to assure the continued ubiquity of E911 Service.
[4] E911 Service is often used to summon aid for persons other than the subscriber or user of the voice service.

automatically provided to the PSAP, and (v) each subscriber pays a share of E911 costs on the same basis as all other voice service subscribers to whom the E911 service is available. These requirements are similar to those imposed on IVS providers in the NPRM, except that the Commission did not expressly require that users of IVS be able to reach the appropriate PSAP by dialing 911. That requirement appears intrinsic to the regulations the Commission did adopt, but should be made express.

II. Responses To Specific Requests For Comment.

In the NPRM, the Commission requested comment on a number of specific matters related to the E911 compatibility requirements it has adopted or is considering.

A. The Commission Should Not Take Action to Further The Development of VoIP Technology.

The Commission seeks comment on what it can do to further the development of this new technology. *NPRM*, para 56. Commission action is *not* necessary to further the development of *any* technology. The Commission should, however, assure that all technologies and services compete on a level playing field, including the requirements of E911 compatibility and funding, so that winners are chosen in the marketplace based on their economies and merits, and not on (i) artificial economies of avoided regulatory or other fees and charges, or (ii) subsidies by public safety agencies, taxpayers, or all voice services ratepayers to engineer "work-arounds" to accommodate the emergency calling requirements of users of new services.

In the case of VoIP, there is ample private investment in the technology. Investment comes from cable companies which see VoIP as a means of competing in the voice market without upgrading their networks to provide hardware-addressability of customer premises. It also comes from Internet companies and other providers anxious to tap into the enormous revenue stream of the traditional exchange and long distance telephone services. Investment in

VoIP also comes from traditional telephone providers who see VoIP as a means (i) to avoid fees and taxes on POTS services and compete on a more even footing with new competitors, and (ii) to sell more DSL connections and reverse the loss of "lines" to wireless providers.

The Commission has described the typical wireline E911 backbone network implementation as "based on a 25-year old architecture and implemented with legacy components that place significant limitations on the functions that can be performed over the network." *NPRM*, para. 14. The extant wireline E911 networks have, however, proven efficient and reliable, and provide a common interface for providers of traditional and nontraditional voice services to connect 911 calls to the PSAPs. These reliable E911 networks should not be lightly abandoned in favor of the latest technological fad.

B. Flexibility Should Be Provided In Development of Techniques for Automatic Location Identification.

The Commission seeks comment on what it can do to facilitate development of techniques for automatically identifying the geographic location of users of portable IVS services. *NPRM*, para. 57. Indeed, it would be preferable to develop techniques for automatically identifying or verifying the geographic location of IVS services used at fixed locations, rather than relying solely on end-users reporting and updating of their locations.

After requesting comment on this issue the Commission lists techniques which have already been proposed, demonstrating ample innovation to meet this challenge. The Commission can best facilitate development of such techniques by adopting and enforcing standards for accuracy and deadlines for implementation, and affording service providers flexibility in development of techniques to meet these standards. BRETSA advocates that the CMRS E911 accuracy standards be adopted for portable VoIP. Accuracy standards for verification the

location of fixed VoIP and other services should be based upon the degree of resolution possible using available techniques, such as GPS, Internet portal mapping, triangulation, etc.

C. The IVS E911 Rules Should Be Extended to All Real-Time, Two-Way Voice Services Which Can Terminate Calls on the PSTN.

The Commission inquires whether the rules adopted in the NPRM should be extended to VoIP Services other than IVS, including services which can only terminate calls to the PSTN, and VoIP services which do not require a broadband connection. *NPRM*, para. 58. As stated in Section I above, the Commission should *not* wait until new VoIP or other real-time two-way voice service are commercially viable and in use, and tragedies have occurred, to require E911 compatibility. Service providers should instead be required to solve any E911 compatibility issues *prior* to marketing their service.[5]

The definition of IVS, "Interconnected *Voice* Services," should be modified to: "services which (i) enable real-time, two-way, voice communications, and (ii) permits calls to be terminated on the PSTN."

D. The Commission Should Adopt Additional Regulations And Standards.

In requesting comment on whether it should adopt regulations and standards beyond those adopted in the *NPRM*, the Commission specifically inquires, *inter alia*, whether it should adopt standards for the length of time updating user locations can take, how providers can satisfy the ALI requirements in areas without street addresses, how the use of wireless VoIP services should impact applicability of the IVS E911 requirements, whether IVS providers should be required to create redundant facilities for providing E911 service, and whether additional or more restrictive customer notification requirements should be adopted. *NPRM*, para. 59.

[5] As the Commission has noted, E911 solutions developed for CMRS can also be used by IVS providers. These solutions should be equally adaptable to other new voice services, so that requiring E911 compatibility need not impede development and deployment of new technologies and services.

Performance standards for updating user locations should be adopted for all voice services, but necessarily varying with the practical requirements of the service. For POTS services where address information is keyed into the ANI/ALI database by carrier personnel upon service initiation or activation, and is rarely changed, the interval for updating the database will necessarily be longer than for an IVS user updating his provider's database via Internet browser, where the ANI/ALI provider will poll that database in real time under a P-ANI. For portable services, the location information must be determined dynamically, also under a P-ANI.

Updates to the ANI/ALI database for service at a fixed location upon service activation should be completed within 24 hours, 95% of the time. In the case of a user updating his registered location online in a provider database to be polled by the ANI/ALI provider under a P-ANI in the case of a 911 call, the change can be instantaneous, but a standard of completion within 5 minutes, 95% of the time, would be appropriate.

Mobile services present additional challenges. BRETSA has found in the case of CMRS services that there is a delay in processing the Phase II location data, so that wireless 911 calls are generally routed based upon the Phase I (cellsite/sector) data. By the time the call is received at the PSAP the location can be re-polled and updated with Phase II data. Pre-SS7 experience has also shown that if a caller does not hear the phone ringing within a short time after dialing 911, the caller will hang up and re-dial the call. This suggests that wireless VoIP users may not wait for location determination to be completed before they hang up and redial 911, yet one of the key issues with VoIP has been in routing the call to the correct PSAP. This suggests that a bifurcated standard should be adopted applicable to all wireless services, CMRS and VoIP, (i) requiring the provider to route the call to the correct PSAP based on the wireless access point, within 5

seconds 95% of the time, and (ii)requiring the carrier to update the location with the CMRS Phase II data within 30 seconds, 95% of the time.

The Commission adopted the prerequisite, for a PSAP to request Phase II E911 service from a CMRS provider, that the PSAP be able to use the data. Many PSAPs have purchased upgrades to their CAD systems which display geographic coordinates for a wireless E911 call in real time. Even without an upgrade to CAD, as long as the PSAP CPE will display the coordinates, the call-taker could enter them manually into any of a number of consumer-priced map programs to display and determine the location of the provided coordinates. Thus, street addresses should be provided the PSAP for users of voice services at fixed locations (or which are portable between fixed locations), and geographic coordinates provided for mobile services or where there is no street address. Whether providers are required to install redundant trunks and facilities should be a matter for the states to determine.

In Colorado, and BRETSA suspects in other states as well, 911 Authorities have been unable to validate or reconcile (i) line and customer counts used by carriers and providers for remittance of emergency telephone surcharges, and (ii) line and customer counts used for network trunking, tariffing, and payments to wireless carriers for Phase I and II wireless E911 deployment. (BRETSA suspects that taxing authorities face the same challenges in verifying remittance of the appropriate amounts.) This difficulty results from the limited resources of 911 authorities and the carriers' concerns with disclosure of sensitive competitive information. A concern is that by under-calculating emergency telephone surcharges, and over-reporting line/customer counts for purposes of compensation, carriers may use the surcharges as a source of capital to fund their competition in the voice market.

The FCC can help resolve the difficulties in verification of carrier remittances and address carrier concerns with confidentiality of competitive information by modifying its tracking of telephone subscription levels. The Commission should require carriers to periodically provide automated reports of their line/customer counts by jurisdiction, their remittance of E911 charges, and perhaps their remittance of other fees and taxes. The Commission should also provide for local E911 authorities, and similar entities to enter by web interface the fees and/or line/customer counts reported to them by the carriers, and have the system "kick out" any discrepancies for the Wireline Competition Bureau's Industry Analysis and Technology Division. The Division can then send a form letter to the authority and carrier involved advising them of the discrepancy, and the authority and carrier can then attempt to resolve the matter under state laws and regulations. The Commission should conduct or require random audits to assure accuracy.

Another concern is that after Colorado 911 Authority Boards negotiated wireless E911 agreements with wireless providers to reimburse them for expenses of deploying Phase I wireless E911, and the Commission's subsequent issuance of the King County Letter[6] permitting states to adopt carrier self-funding as a means of financing wireless E911, some wireless carriers began charging their customers regulatory or other administrative fees for the purposes of recovering such E911 costs. The carriers charged these fees to customers nationwide, including in Colorado, notwithstanding that they were already receiving compensation for E911 service under the contracts with the Authority Boards. They may thus be double-recovering their E911 deployment costs from the Authority Boards and from their customers. The Colorado Authority Boards are also without information as to the status of recovery of the amortized costs of deploying Phase I

[6] Letter from Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, to Marlys R. Davis, E911 Program Manager, Department of Information and Administrative Services, King County, Washington, CC Docket No. 94-102 at 3 (dated May 7, 2001)

and Phase II Wireless E911. At some point the wireless carriers will have completed recovery of the costs of upgrading their networks to provide Phase I and II location information and the payments under the Wireless E911 Agreements should terminate. The Commission should require wireless carriers to include in their reports on subscriber counts and remittances statements on the status of their cost recovery.

E. The States Should Play a Key Role In Regulation and Enforcement of E911 Services.

As a preliminary matter, the Commission should make clear the extent of any preemption of state regulation of E911 services as provided by *all* carriers. For example, wireless carriers have claimed that all state regulation of them has been preempted by the FCC, while BRETSA submits that the states retain authority E911 calls terminated on the PSTN and then to the PSAPs, directly and via authority with respect to public safety and interconnection agreements.

BRETSA submits that the states have ample jurisdiction and authority to regulate the termination of E911 calls to the PSTN. However it would be beneficial for the Commission to adopt consistent rules requiring all carriers and providers terminating real-time, two-way voice calls to the PSTN to provide the five essential functionalities of: (i) callers can reach the PSAP serving the geographic area in which the caller is located by dialing 911, (ii) 911 calls are routed to the PSAP via existing 911 networks and facilities unless otherwise provided by state statute or regulation, (iii) the caller's call-back number is automatically provided to the PSAP, (iv) the caller's location is automatically provided to the PSAP, and (v) each subscriber pays a share of E911 costs on the same basis as all other voice service subscribers to whom the E911 service is available.

The states should be left free to determine (i) the means by which carriers interconnect 911 Calls to the PSAP, (ii) the means of funding E911 service and networks, including fees or

surcharges on carriers or providers or their customers, (iii) standards for carrier/provider liability or exemption from liability with respect to E911 service, (iv) resolution of disputes regarding the reporting of line and customer counts and payment of fees or surcharges to fund E911 service, and (v) other matters pertinent to the provision of E911 service.

F. Privacy Requirements.

The Commission should adopt consistent provisions regarding the privacy of customer information with respect to the *carrier's or provider's* use of that information. The states should address use of E911 information by public safety authorities. Generally, PSAPs are able to access and use the ANI/ALI database for purposes of responding to 911 calls, but law enforcement personnel are not permitted to separately access this information for investigative purposes (absent court order or search warrant). An area of current interest by PSAP's is their ability to access and use ANI/ALI information for purposes of proactive database verification. However these issues concerning PSAP and law enforcement use of ANI/ALI information should be addressed by the states, on a state-by-state basis.

Respectfully submitted,

Boulder Regional Emergency Telephone Service Authority

By: 
Joseph P. Benkert

Joseph P. Benkert, P.C.
PO Box 620308
Littleton, CO 80162-0308

Its Attorneys

August 15, 2005